

Application Serial No. 10/657,583
Reply to Office Action dated June 6, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An apparatus for folding an insert for placement within the opening of a taco shell, the apparatus comprising:

a frame;

a first pivot shaft pivotally connected to ~~a frame~~ the frame;

a second pivot shaft pivotally connected to the frame;

a first lever arm perpendicularly connected to the first pivot shaft;

a second lever arm perpendicularly connected to the second pivot shaft;

a first folder finger perpendicularly connected to the first pivot shaft and adapted to engage the insert as it passes the first folder finger; and

a second folder finger perpendicularly connected to the second pivot shaft and adapted to engage the insert as it passes the second folder finger.

2. (currently amended) The apparatus of ~~claim 0~~ claim 1 further comprising a cam follower pivotally connected to the free end of each lever arm, wherein the axis of the cam follower and the axis of the pivot shaft are parallel.

3. (currently amended) ~~The apparatus of claim 1 further comprising~~

An apparatus for folding an insert for placement within the opening of a taco shell, the apparatus comprising:

a frame;

a first pivot shaft pivotally connected to the frame;

a second pivot shaft pivotally connected to the frame;

a first lever arm substantially perpendicularly connected to the first pivot shaft;

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a second lever arm substantially perpendicularly connected to the second pivot shaft;
a first folder finger substantially perpendicularly connected to the first pivot shaft and adapted to engage the insert as it passes the first folder finger;
a second folder finger substantially perpendicularly connected to the second pivot shaft and adapted to engage the insert as it passes the second folder finger;
and
a spring having a first end and a second end, wherein the first end is connected to the first lever arm and the second end is connected to the second lever arm.

4. (currently amended) ~~The apparatus of claim 1 further comprising~~

An apparatus for folding an insert for placement within the opening of a taco shell, the apparatus comprising:

a frame;
a first pivot shaft pivotally connected to the frame;
a second pivot shaft pivotally connected to the frame;
a first lever arm substantially perpendicularly connected to the first pivot shaft;
a second lever arm substantially perpendicularly connected to the second pivot shaft;
and
a first folder finger substantially perpendicularly connected to the first pivot shaft and adapted to engage the insert as it passes the first folder finger;
a second folder finger substantially perpendicularly connected to the second pivot shaft and adapted to engage the insert as it passes the second folder finger; and
an insert magazine connected to the frame for holding the insert prior to delivery to the first and second folding fingers, the insert magazine comprising a channel and a slide block, the slide block having an angled leading face and adapted to slidably displace within the channel, the channel adapted to receive inserts.

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5. (original) An apparatus for placing an insert within a nested group of taco shells, the apparatus comprising:

a horizontal shaft; and

a vacuum cup adapted to transport the insert and supported off of a first pillow block having a bore therethrough for receiving the horizontal shaft.

6. (original) The apparatus of claim 5 further comprising a horizontal timing belt and a servo motor, wherein the belt is routed around a drive pulley and a second pulley and interconnected to the first pillow block, wherein the servo motor is interconnected to the drive pulley.

7. (original) The apparatus of claim 6 wherein the servomotor causes the timing belt to displace the first pillow block along the horizontal shaft, thereby causing the vacuum cup to displace horizontally.

8. (original) The apparatus of claim 5 further comprising a vertical shaft and a second pillow block, wherein the second pillow block is supported off of the first pillow block and has a bore therethrough for receiving the vertical shaft, wherein the vacuum cup is suspended off of the vertical shaft.

9. (original) The apparatus of claim 8 further comprising an air cylinder adapted to vertically displace the vertical shaft through the second pillow block, thereby causing the vacuum cup to displace vertically.

10. (original) The apparatus of claim 5 further comprising a cam supported off of the first pillow block, wherein the cam is adapted to open a pair of folder lever arms.

11. (original) An apparatus for nesting individual taco shells to form a nested group of taco shells, the apparatus comprising:

a nester conveyor adapted to transport taco shells to a taco shell nesting

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station and having a first operational speed and a second operational speed, wherein the first operational speed is greater than the second operational speed; and
a first sensor adapted to detect the passage of taco shells traveling to the nesting station,
wherein the nester conveyor shifts from the first operational speed to the second operational speed when the passage of a predetermined number of taco shells has been detected by the first sensor.

12. (original) The apparatus of claim 11 further comprising a second sensor adapted to detect the passage of the nested group from the nesting station.

13. (original) The apparatus of claim 12 wherein the nester conveyor shifts from the second operational speed to the first operational speed when the passage of the nested group has been detected by the second sensor.

14. (original) The apparatus of claim 11 further comprising an infeed conveyor adapted to feed taco shells to the nester conveyor, wherein the operational speed of the infeed conveyor is less than the first operational speed of the nester conveyor.

15. (original) An apparatus for aligning a nested group of taco shells, the apparatus comprising:

a convergence volume adapted to hold the nested group of taco shells;
a pair of opposed vertical surfaces forming two sides of the convergence volume and adapted to converge towards each other to align the nested group of taco shells; and
a structure located above the convergence volume and adapted to limit the vertical travel of the nested group of taco shells as aligning occurs.

16. (original) The apparatus of claim 15 wherein the structure is a vertically oriented plate, a bottom edge of the plate adapted to contact the nested group of taco shells.

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17. (original) The apparatus of claim 15 further comprising a vertical surface forming a third side of the convergence volume and adapted to pivot to become a non-vertical surface.

18-31. (canceled)

32. (currently amended) An assembly for folding an insert for placement within the opening of a taco shell, nesting individual taco shells to form a nested group of taco shells, placing the insert within the nested group of taco shells, and aligning the nested group of taco shells comprising:

a first apparatus for folding the insert for placement within the opening of a taco shell of the nested group of taco shells including: a frame; a first pivot shaft pivotally connected to a the frame; a second pivot shaft pivotally connected to the frame; a first lever arm perpendicularly connected to the first pivot shaft; a second lever arm perpendicularly connected to the second pivot shaft; a first folder finger perpendicularly connected to the first pivot shaft and adapted to engage the insert as it passes the first folder finger; and a second folder finger perpendicularly connected to the second pivot shaft and adapted to engage the insert as it passes the second folder finger; a spring having a first end and a second end, wherein the first end is connected to the first lever arm and the second end is connected to the second lever arm; and an insert magazine connected to the frame for holding the insert prior to delivery to the first and second folding fingers, the insert magazine comprising a channel and a slide block, the slide block having an angled leading face and adapted to slidably displace within the channel, the channel adapted to receive inserts;

a second apparatus for nesting the individual taco shells to form the nested group of taco shells including: a nester conveyor adapted to transport taco shells to a taco shell nesting station and having a first operational speed and a second operational speed, wherein the first operational speed is greater than the second operational speed; and a first sensor adapted to detect the passage of taco shells traveling to the nesting station, wherein the nester conveyor shifts from the first operational speed to the second

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operational speed when the passage of a predetermine number of taco shells has been detected by the first sensor;

a third apparatus for placing the insert within the nested group of taco shells including: a horizontal shaft; and a vacuum cup adapted to transport the insert and supported off of a first pillow block having a bore therethrough for receiving the horizontal shaft; and

a fourth apparatus for aligning the nested group of taco shells including: a convergence volume adapted to hold the nested group of taco shells; a pair of opposed vertical surfaces forming two sides of the convergence volume and adapted to converge towards each other to align the nested group of taco shells; and a structure located above the convergence volume and adapted to limit the vertical travel of the nested group of taco shells as aligning occurs.